

Navajo Abandoned Uranium Mine

Site Screen Report

This form is for use at the site of abandoned uranium mines (AUM) located on Navajo Nation lands. Applicable sites include all mine and mine features that have or have not undergone reclamation by the Navajo Abandoned Mine Lands Reclamation Program, including features, adits, pits and waste piles. Applicable sites also include all AUM sites listed in the USEPA CERCLIS database, all sites listed in the 2008 AUM GIS Report issued by USACOE and USEPA, all AUM sites on allotment lands associated with the Navajo Nation, and any and all AUM sites not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands that may be impacting Navajo lands will need to be coordinated with the authorities appropriate to those lands.

The purpose of the form is to ascertain the status and location of the identified AUM site, and record all immediate site information associated with the mine site. Decisions and recommendations on what additional steps are needed will be provided on a separate document.

Rocky Flats No. 1 AUM Site

Navajo AUM Northern Region

Prepared by:

Weston Solutions, Inc.

Contract: W91238-06-F-0083

12767.063.496.1111

March 2010

Part I Site Identification, Location and Status**Site Names and ID numbers as applicable****Mine ID:** 265, 266, 267, 268, 269**Map ID:** #265 – N84
#266 – N85
#267 – N81
#268 – N82
#269 – N83**CERCLIS:** NNN000908868**Navajo Abandoned Mine Land Reclamation Program:**#265 – NA-0413
#266 – NA-0413
#267 – NA-0416
#268 – NA-0415
#269 – NA-0414**Local name / Aliases:** Rocky; Rocky No. 1; MP-30; Rocky Flats 1; Barton and Lee; H. Barton and T. Lee; Rocky Flat No. 2**Chapter and local area:** #265 - Beclabito Chapter
#266 - Beclabito Chapter
#267 - Beclabito Chapter
#268 - Beclabito Chapter
#269 - Beclabito Chapter**County:** San Juan **State:** New Mexico**Lat/Long:** #265 - 36.7841286902 N / -109.037850025 W
#266 - 36.7831940000 N / -109.036152000 W
#267 - 36.7895173125 N / -109.037027203 W
#268 - 36.7881973232 N / -109.036466911 W
#269 - 36.7859568994 N / -109.035754609 W**Nearby road and highway:** Indian Route 63 **Local Post Office:** Beclabito, NM**Surface Land Status: check one or more and provide ownership and contact information below****Tribal Trust Land** ☒
Private ☐
Bureau of Land Mgmt ☐
State ☐**Public lands** ☐
Tribal Fee Land ☐
Allotment ☐
Fee land ☐

Subsurface Mineral Rights:

The mineral rights ownership was identified as Indian.

Claim and operator information:

The mine site surface land status is classified as Tribal Trust Land. Historical documents showed the operator of the mine as Barton and Lee from 1950 to 1952, and Barrett Smith Mining Co. from 1953 to 1955. No other historical ownership / lease information was identified in the EPA/AUM database.

Number of residential structures within 200 feet of mine: None

Estimated volume of mine waste onsite: #265 – None
#266 – None
#267 – None
#268 – None
#269 – 5 yd³

Part II Summary of radiological readings

Mine ID # 265

Highest gamma radiation measurement:

17,123 counts per minute (cpm)

Describe any other radiological measurements:

A total of 6,207 gamma radiation measurements were collected from the mine site, ranging from 3,651 cpm to 17,123 cpm. The measurements are represented in Figures 2 and 3.

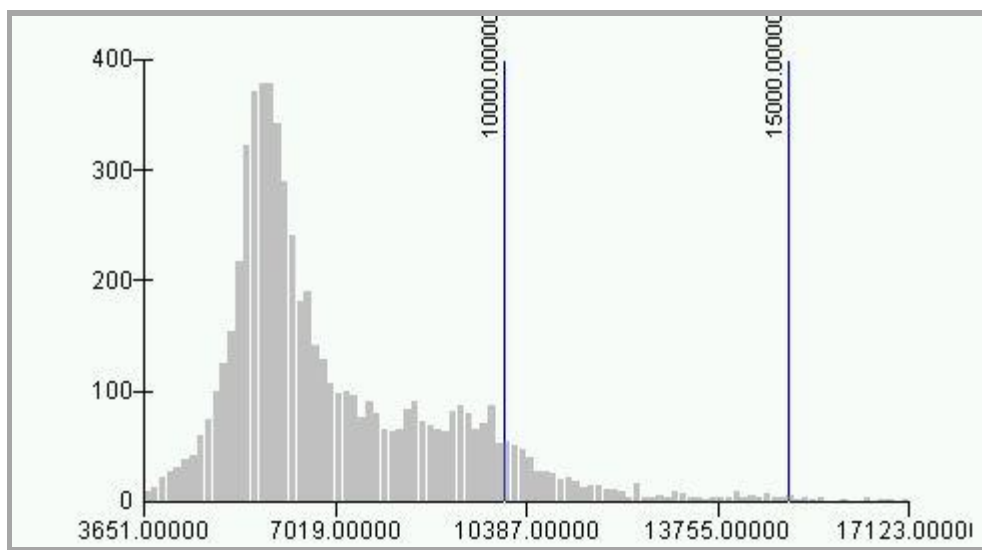
Background Locations

#1 8,277 cpm

Average background = 8,277 cpm

Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	6207
Minimum:	3651.00000
Maximum:	17123.00000
Sum:	43464230.00000
Mean:	7002.45368
Median:	6268.00000
Standard Deviation:	1974.61118

Mine ID #266**Highest gamma radiation measurement:**

34,133 counts per minute (cpm)

Describe any other radiological measurements:

A total of 530 gamma radiation measurements were collected from the mine site, ranging from 9,195 cpm to 34,133 cpm. Measurements collected at the reclamation cap were found at levels above 30,000 cpm. The measurements are represented in Figures 4 and 5.

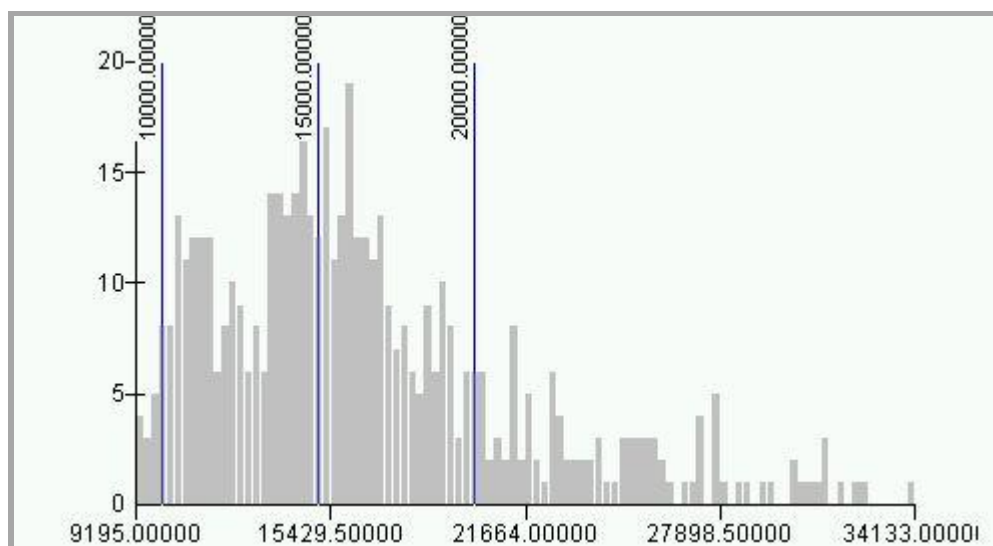
Background Locations

#1 8,277 cpm

Average background = 8,277 cpm

Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	530
Minimum:	9195.00000
Maximum:	34133.00000
Sum:	8762651.00000
Mean:	16533.30377
Median:	15612.50000
Standard Deviation:	4904.45764

Mine ID # 267**Highest gamma radiation measurement:**

15,469 counts per minute (cpm)

Describe any other radiological measurements:

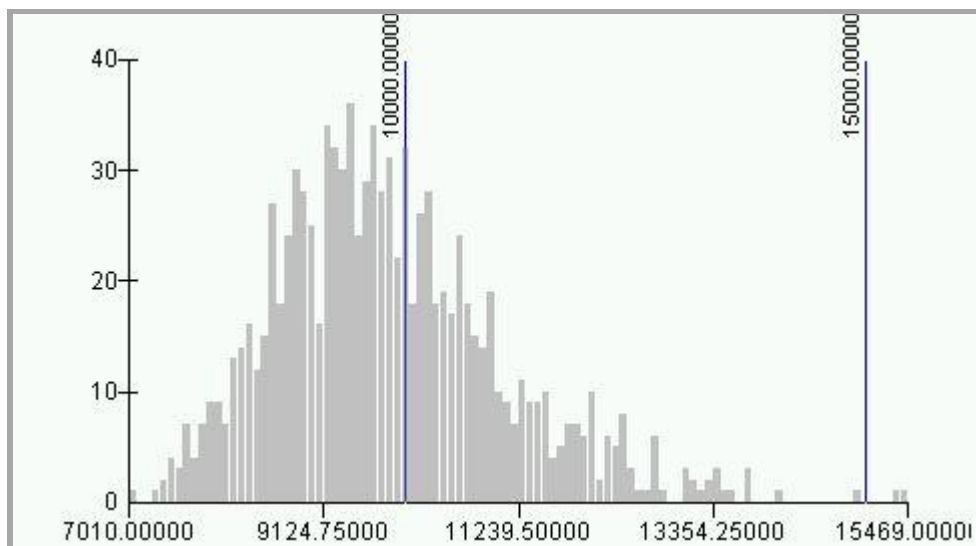
A total of 997 gamma radiation measurements were collected from the mine site, ranging from 7,010 cpm to 15,469 cpm. The measurements are represented in Figures 6 and 7.

Background Locations

#1 8,277 cpm

Average background = 8,277 cpm**Distribution Chart and Statistics:**

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	997
Minimum:	7010.00000
Maximum:	15469.00000
Sum:	9810896.00000
Mean:	9840.41725
Median:	9692.00000
Standard Deviation:	1247.25914

Mine ID # 268**Highest gamma radiation measurement:**

79,866 counts per minute (cpm)

Describe any other radiological measurements:

A total of 1,002 gamma radiation measurements were collected from the mine site, ranging from 5,703 cpm to 79,866 cpm. The measurements are represented in Figures 8 and 9.

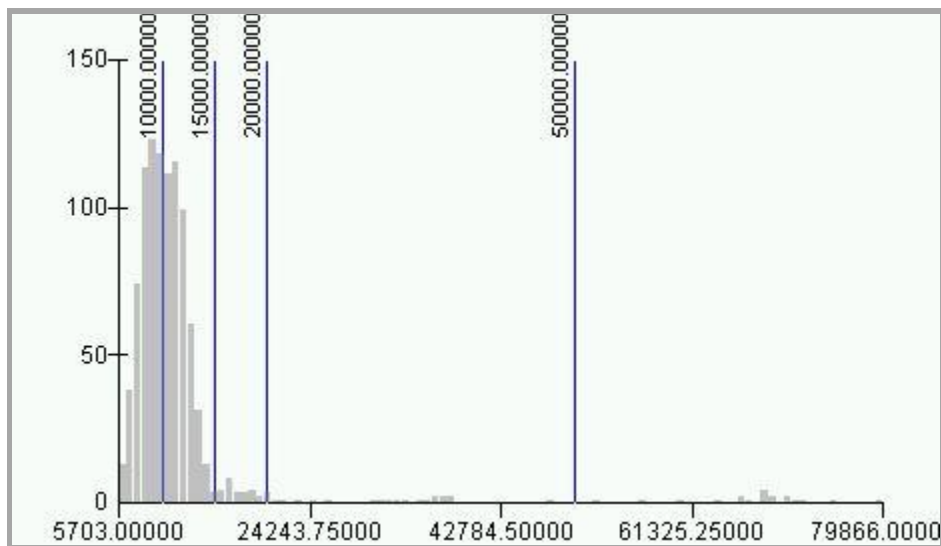
Background Locations

#1 8,277 cpm

Average background = 8,277 cpm

Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	1002
Minimum:	5703.00000
Maximum:	79866.00000
Sum:	11789585.00000
Mean:	11766.05289
Median:	10132.50000
Standard Deviation:	8690.54103

Mine ID # 269**Highest gamma radiation measurement:**

107,513 counts per minute (cpm)

Describe any other radiological measurements:

A total of 1,723 gamma radiation measurements were collected from the mine site, ranging from 7,593 cpm to 107,513 cpm. Measurements collected at the adit and waste pile were found at levels above 100,000 cpm. The measurements are represented in Figures 10 and 11.

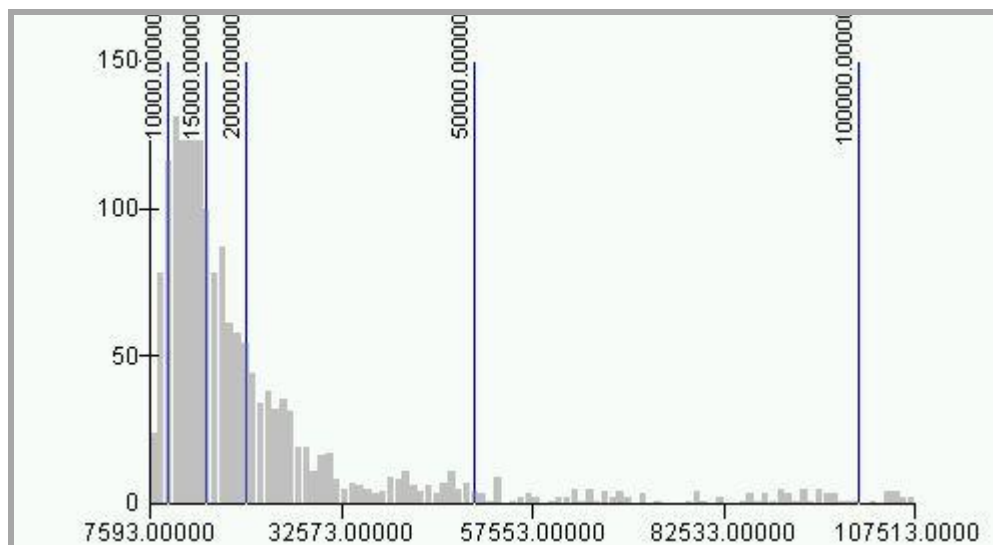
Background Locations

#1 8,277 cpm

Average background = 8,277 cpm

Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	1723
Minimum:	7593.00000
Maximum:	107513.00000
Sum:	37545105.00000
Mean:	21790.54266
Median:	15609.00000
Standard Deviation:	17656.28549

Part III Status of Reclamation and Mine Waste**Mine ID #265**

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed : Yes Waste Pile onsite : No

NAMLRP Project Number: NA-0413

NAMLRP Mine features: 1Rim Strip / Pits

The following information was obtained from field observations collected during the 2009 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:**Adits**

None

Waste Piles

None

Pits

None

Shafts

None

Other Debris and Mine Features

A 150' x 150' reclamation cap at center of the site

Mine ID #266

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed : Yes Waste Pile onsite : No

NAMLRP Project Number: NA-0413

NAMLRP Mine features: 1 Portal

The following information was obtained from field observations collected during the 2009 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits

None

Waste Piles

None

Pits

None

Shafts

None

Other Debris and Mine Features

None

Mine ID #267

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed : Yes Waste Pile onsite : No

NAMLRP Project Number: NA-0416

NAMLRP Mine features: 1 Portals

The following information was obtained from field observations collected during the 2009 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits

None

Waste Piles

None

Pits

None

Shafts

None

Other Debris and Mine Features

None

Mine ID #268

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed : Yes Waste Pile onsite : No

NAMLRP Project Number: NA-0415

NAMLRP Mine features: 1 Portal

The following information was obtained from field observations collected during the 2009 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits

None

Waste Piles

None

Pits

None

Shafts

None

Other Debris and Mine Features

None

Mine ID #269

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed : Yes Waste Pile onsite : No

NAMLRP Project Number: NA-0414

NAMLRP Mine features: 1 Rim Strip / Pit

The following information was obtained from field observations collected during the 2009 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits

1 possible collapsed adit

Waste Piles

A small waste debris pile at entrance to the adit

Pits

None

Shafts

None

Other Debris and Mine Features

None

Part IV

Site observations and Environs

Observed Structures: list number of and describe human habitation status of structures at the following distances from mine:

0 to 200 feet: None

200 feet to 0.25 mile: None

Observed Public or commercial structure: list and describe all schools, clinics, Chapter Houses, places of business and any other structure used by members of the community at the following distances:

0 to 200 feet: None

200 feet to 0.25 mile: None

Levels measured around the perimeter(s) of the identified structure(s): None

Observed water sources: list the number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine:

0 to 0.25 miles: None

0.25 miles to 4 miles: None

Sensitive environments: note and describe all sensitive environments located within visible range of the mine site, including: wetlands, endangered species, habitats and approximate locations of sites that may be under protection of the government of the Navajo Nation.

None observed

Known Site History: include information from interviews with Chapter officials and residents. Note information on mine ownership, type of mining operation, period of operation, known amount of production, and any other information as provided.

Rocky Flats No. 1 consists of 5 mine sites with a total area of 15,960.13 m² (#265 – 2,627.69 m², #266 – 2,627.69 m², #267 – 2,627.70 m², #268 – 2,627.69 m², #269 – 5,449.36m²). The mine was identified as being operational from 1950 to 1955. Historical documents showed the operator of the mine as Barton and Lee from 1950 to 1952, and Barrett Smith Mining Co. from 1953 to 1955. While operational, the mine had a total reported production volume of 509 tons. No other historical information or any additional ownership / lease information was identified in the EPA/AUM database.

Part V Response Action Summary

Site Name(s): Rocky Flats No. 1 **Chapter:** Beclabito.

Decision Criteria

Is there an unreclaimed waste pile at the site? Yes

At what distance from the waste pile is the nearest residential structure located? None

At what distances from the waste pile are there potential drinking water sources? None

Is there a reclamation cap or sealed adit in place at the site? Yes

Is the cap/seal functionally intact? Yes

Is the cap/seal sufficiently degraded to create a concern about releases? No

At what distance from the cap/seal is the nearest domestic structure located? None

At what distance from the cap/seal is the nearest domestic drinking water source? None

Summary of emergency response factors

None

Summary hazard ranking system factors

None

Summary of reclamation factors

Waste pile and possible collapsed adit found at site #269; reclamation cap found at site #266

Part VI Photos



Photo 1. Mine site #265



Photo 2. Mine site #266 reclamation cap area



Photo 3. Mine site #266



Photo 4. Mine site #267



Photo 5. Mine site #268



Photo 6. Mine site #269 collapsed adit and waste pile



Photo 7. Mine site #269

Part VII Contacts Reports and InformationName: Stanley Edison (928) 871-6861Eugene Esplain (928) 871-7331Title or official role (if any) Navajo EPA Superfund ProgramAddress PO Box 2946, Window Rock, AZ 86515Information provided Lead Regulatory Agency

Name _____

Title or official role (if any) _____

Address _____

Telephone number _____

Information provided _____

Name _____

Title or official role (if any) _____

Telephone number _____

Information provided _____

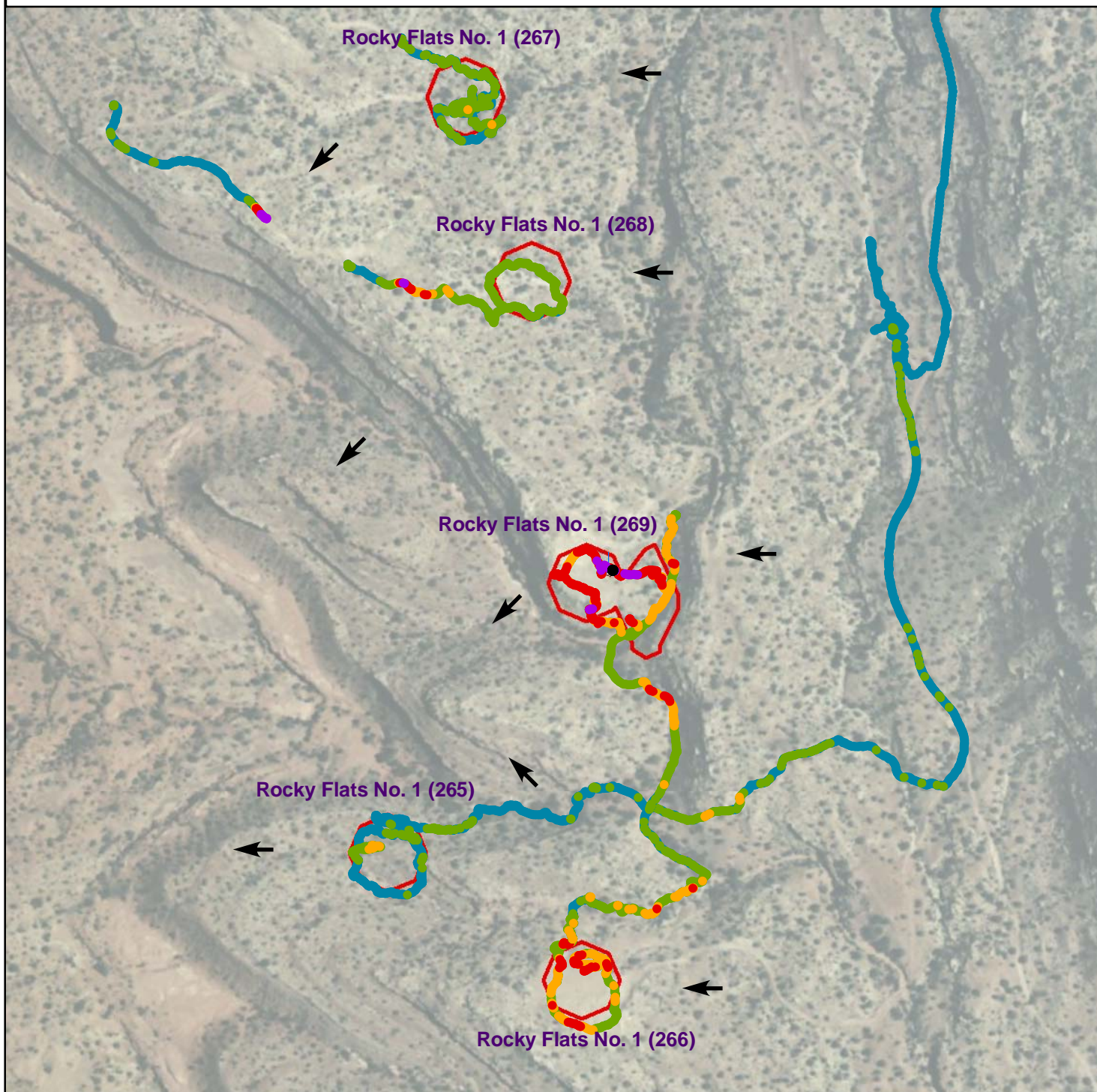
Name _____

Title or official role (if any) _____

Telephone number _____

Information provided _____

**Figure 1 - Gamma Radiation Measurements
Rocky Flats No.1 Mines (265, 266, 267, 268, 269)
Navajo Nation, Arizona**



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000

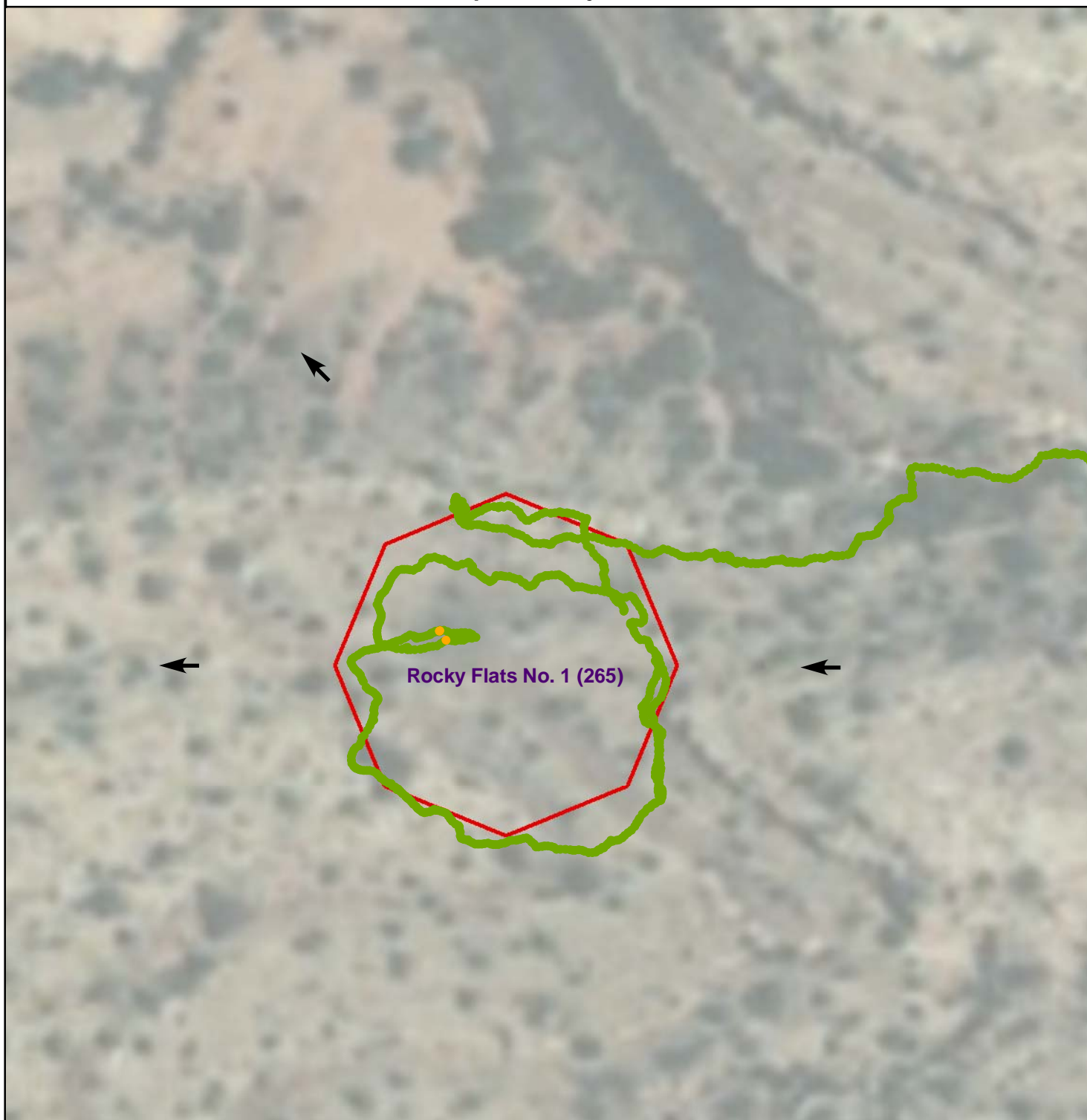
➔ General Direction Down-Slope

▭ Mine Claim Boundaries

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)



**Figure 2 - Gamma Radiation Measurements, Above Two Times Background
Rocky Flats No. 1 (265)
Beclabito Chapter, Navajo Nation, Arizona**



Legend

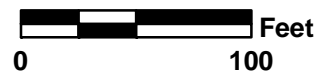
Gamma Radiation Measurements

- < 2X Background
- > 2X Background

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

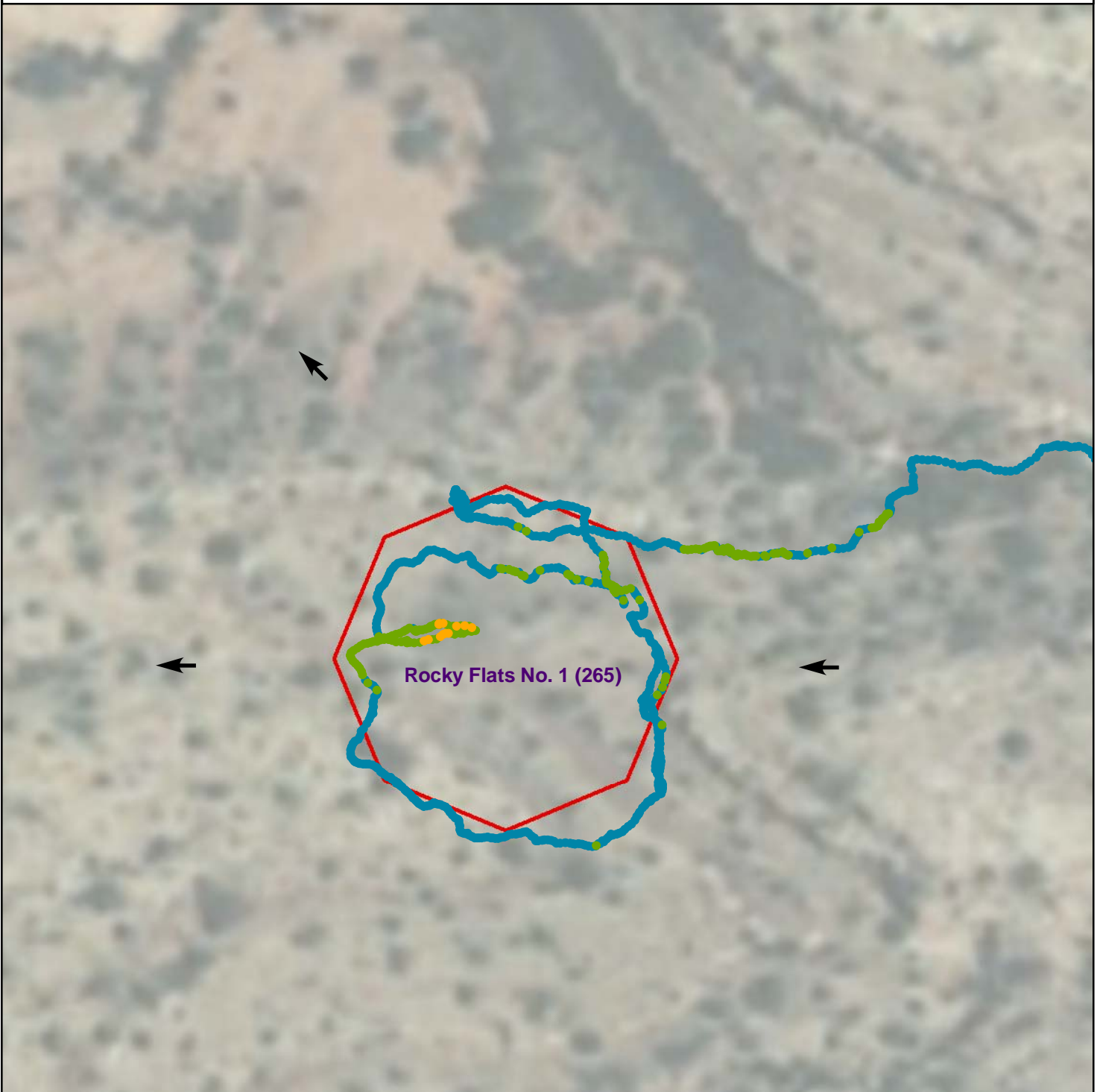
Average background = 8,277 cpm

- ➔ General Direction Down-Slope
- Mine Claim Boundaries



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Figure 3 - Gamma Radiation Measurements
Rocky Flats No. 1 (265)
Beclabito Chapter, Navajo Nation, Arizona



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000

➔ General Direction Down-Slope

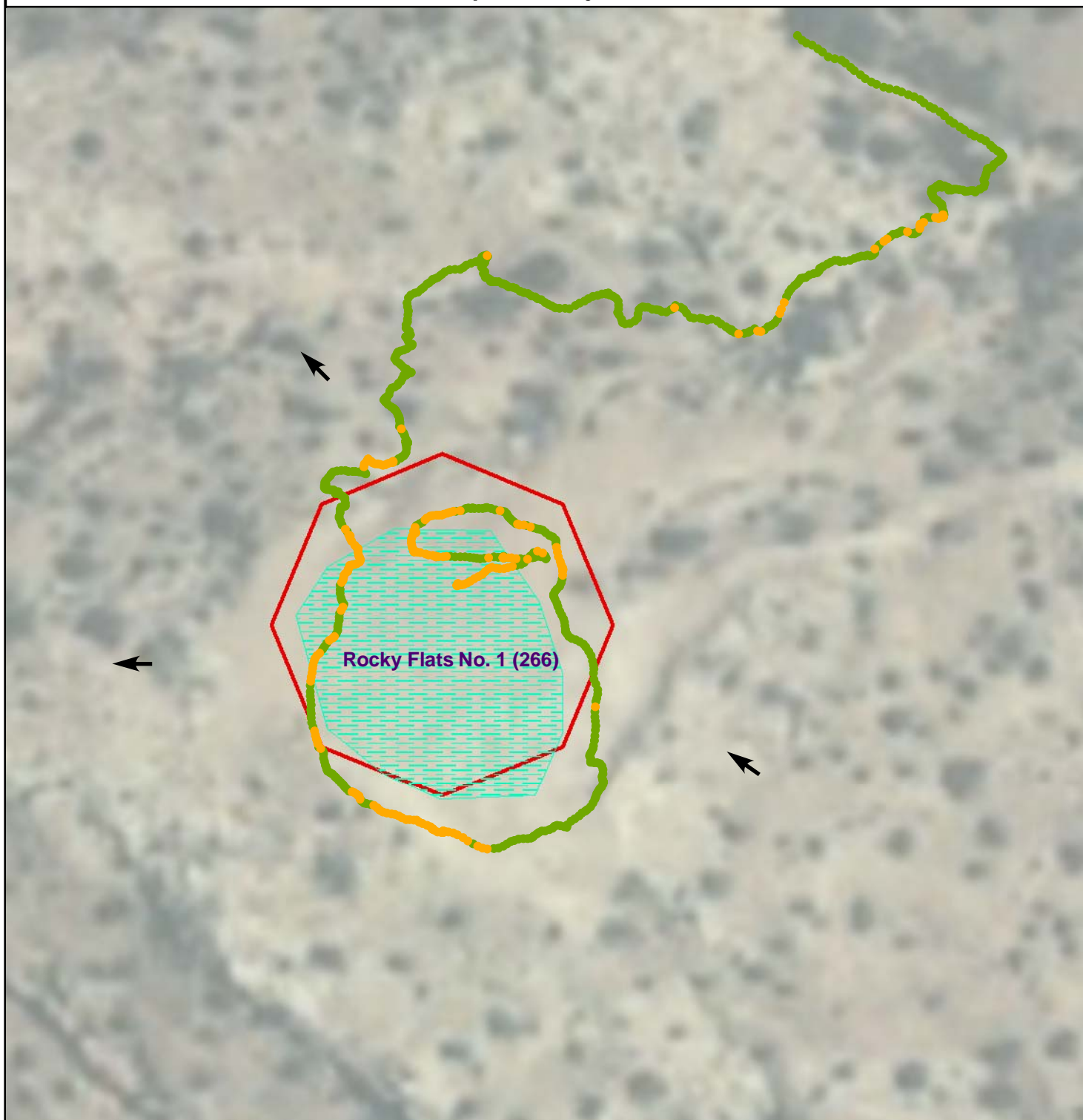
▭ Mine Claim Boundaries

Gamma survey conducted 10/2009
 Measured as counts per minute (cpm)

Average background 8,277 cpm



**Figure 4 - Gamma Radiation Measurements, Above Two Times Background
Rocky Flats No. 1 (266)
Beclabito Chapter, Navajo Nation, Arizona**



Legend

Gamma Radiation Measurements

- < 2X Background
- > 2X Background

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

Average background = 8,277 cpm



Observed Reclamation Cap



General Direction Down-Slope



Mine Claim Boundaries

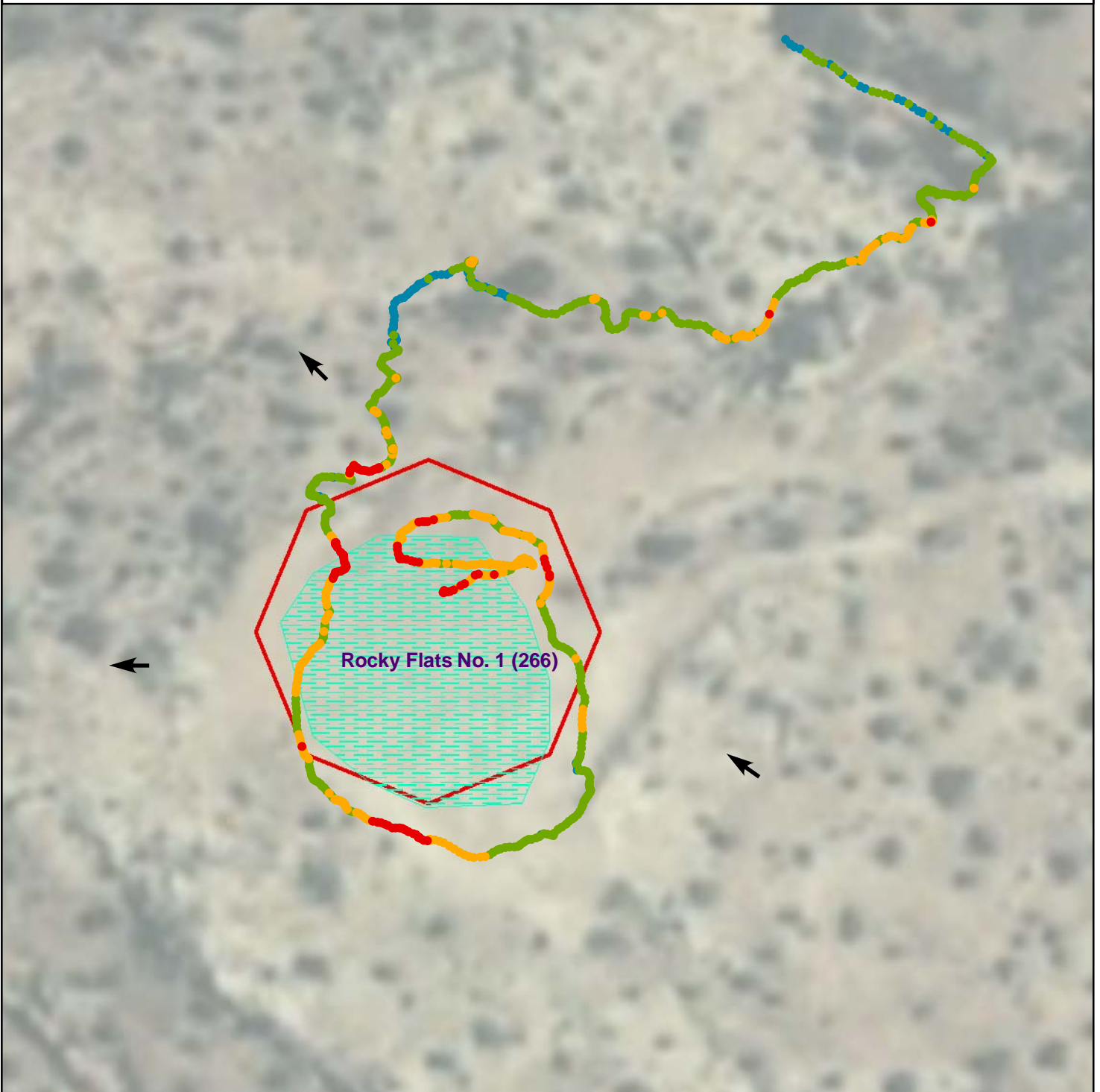


0 100 Feet



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Figure 5 - Gamma Radiation Measurements
Rocky Flats No. 1 (266)
Beclabito Chapter, Navajo Nation, Arizona



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000



Observed Reclamation Cap



General Direction Down-Slope



Mine Claim Boundaries

Gamma survey conducted 10/2009
 Measured as counts per minute (cpm)

Average background 8,277 cpm

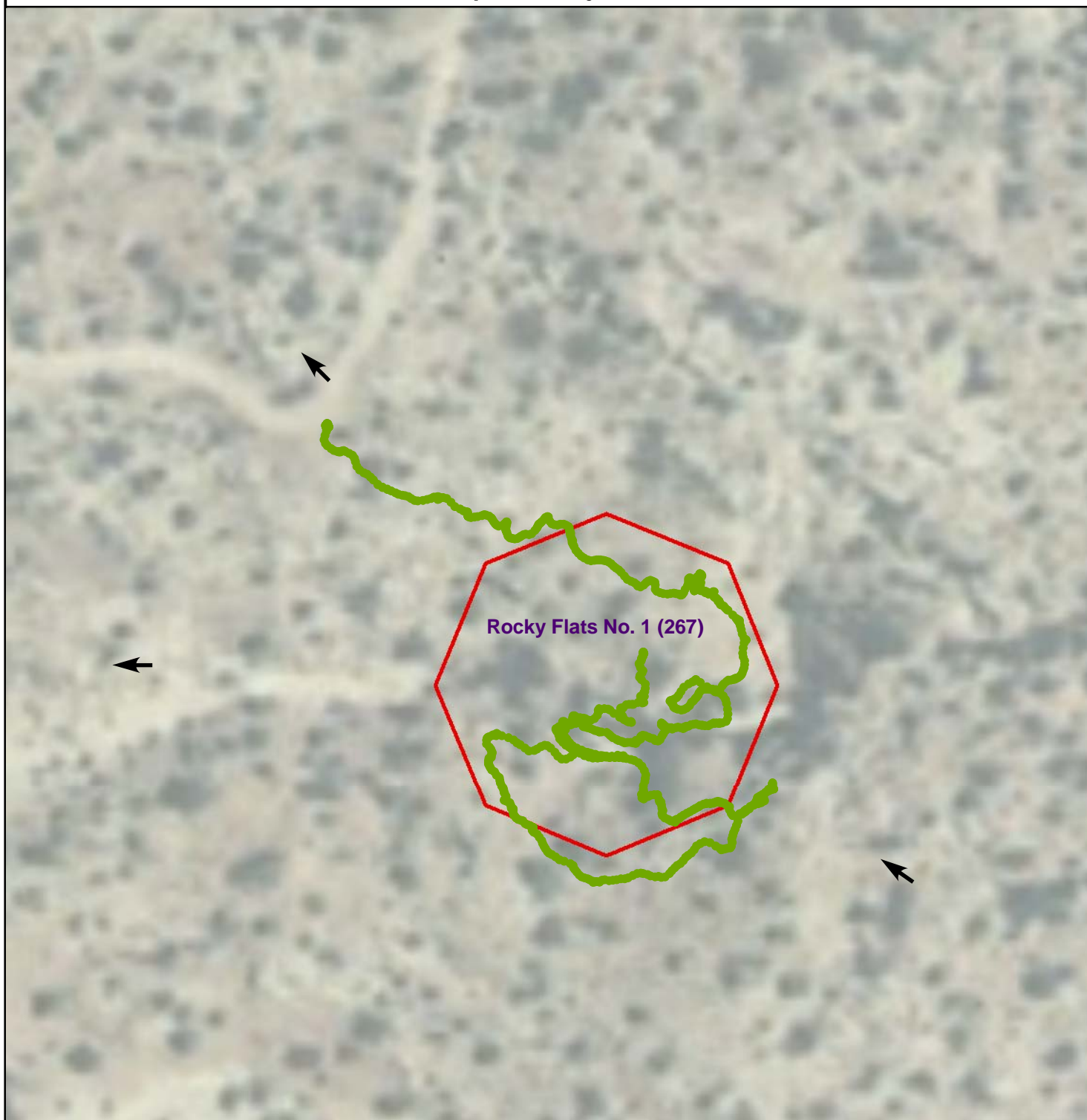


0 100 Feet



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**Figure 6 - Gamma Radiation Measurements, Above Two Times Background
Rocky Flats No. 1 (267)
Beclabito Chapter, Navajo Nation, Arizona**



Legend

Gamma Radiation Measurements

- < 2X Background
- > 2X Background

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

Average background = 8,277 cpm

- ➔ General Direction Down-Slope
- Mine Claim Boundaries

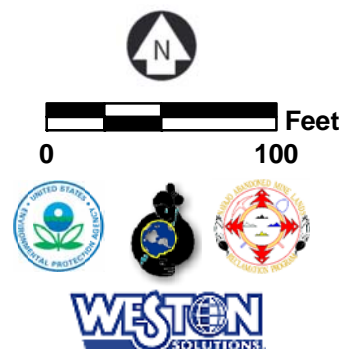
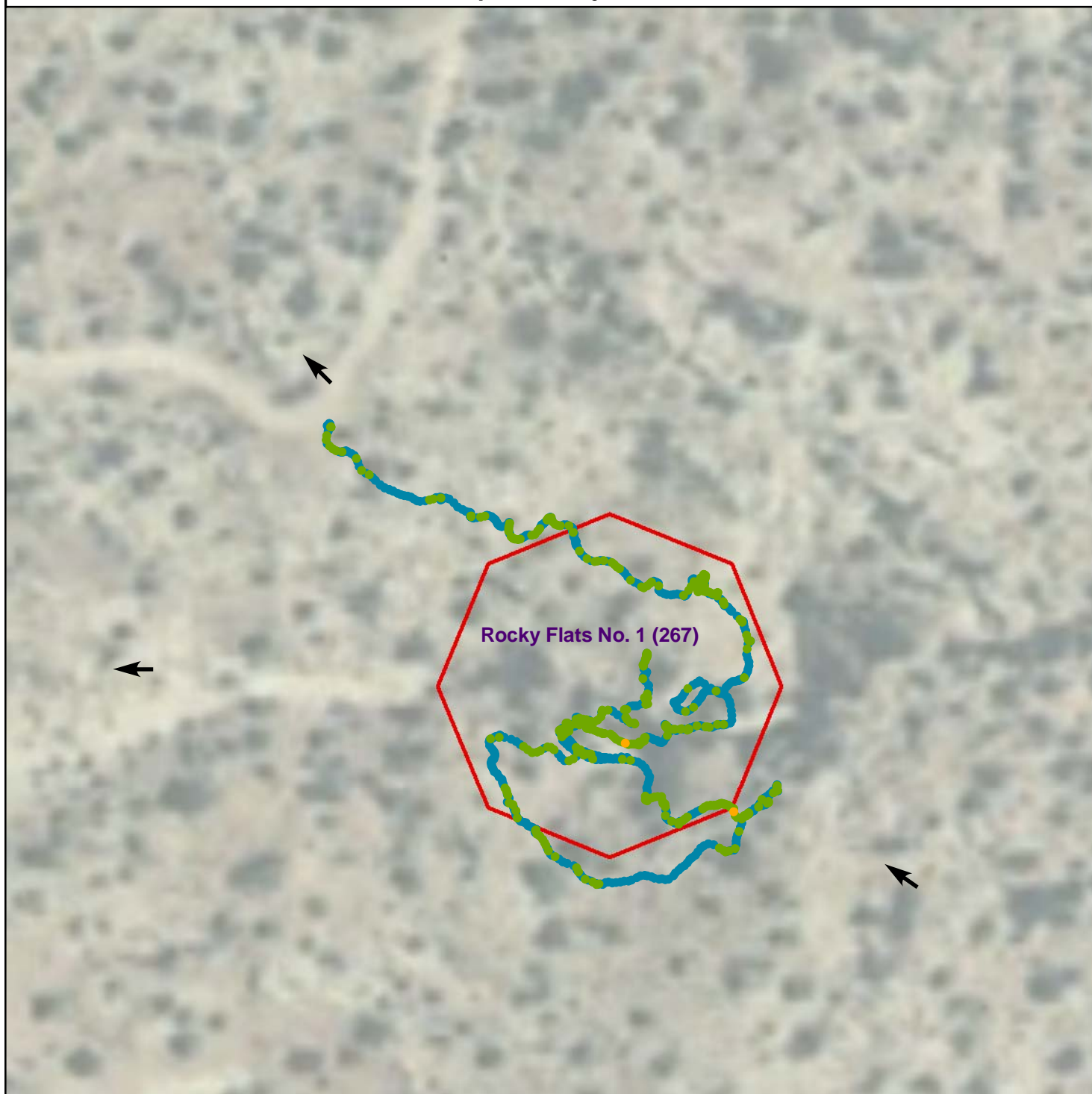


Figure 7 - Gamma Radiation Measurements
Rocky Flats No. 1 (267)
Beclabito Chapter, Navajo Nation, Arizona



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000

➔ General Direction Down-Slope

▭ Mine Claim Boundaries

Gamma survey conducted 10/2009
 Measured as counts per minute (cpm)

Average background 8,277 cpm

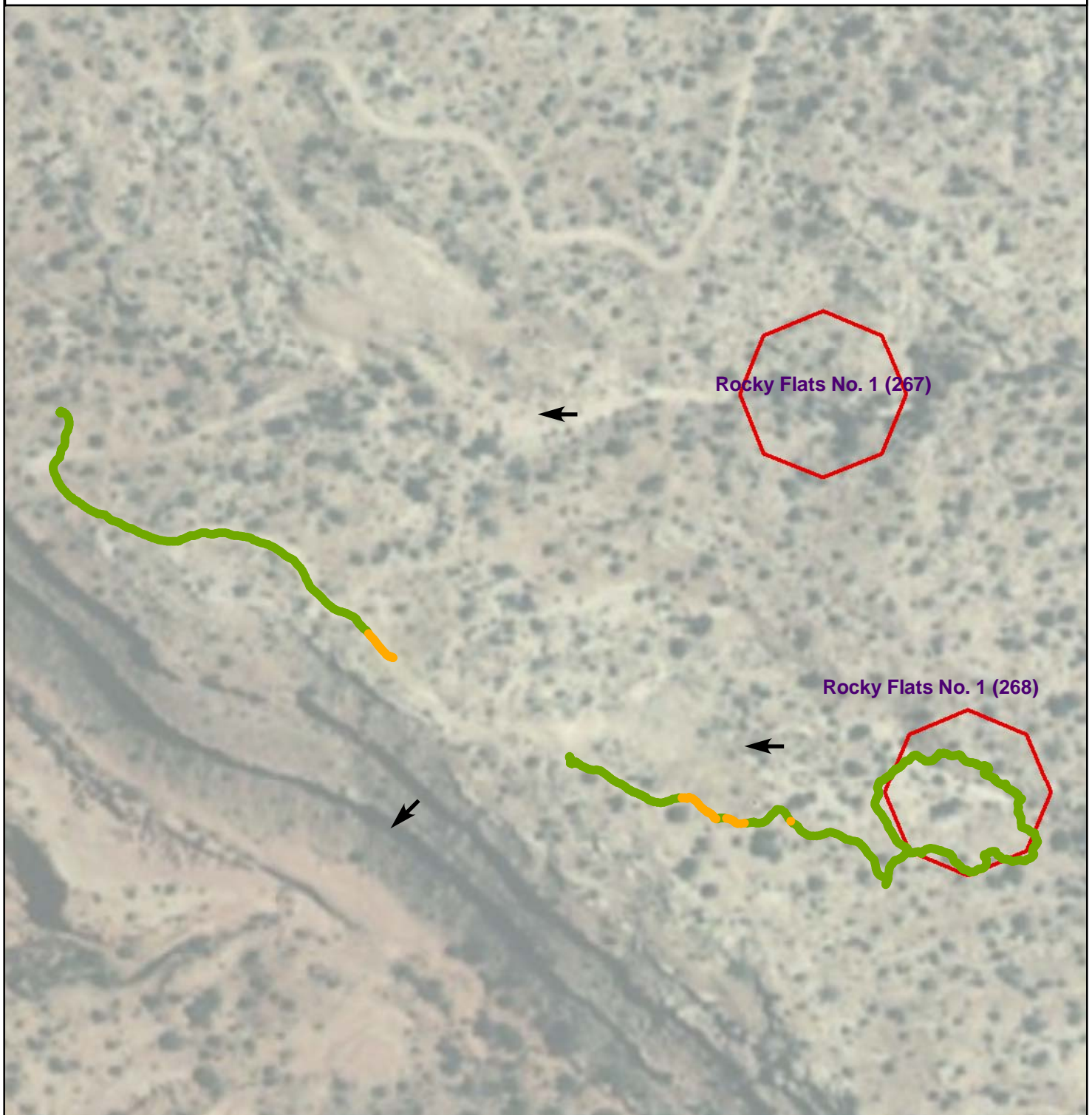


0 100 Feet



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**Figure 8 - Gamma Radiation Measurements, Above Two Times Background
Rocky Flats No. 1 (268)
Beclabito Chapter, Navajo Nation, Arizona**



Legend

Gamma Radiation Measurements

- < 2X Background
- > 2X Background

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

Average background = 8,277 cpm



General Direction Down-Slope



Mine Claim Boundaries

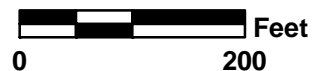
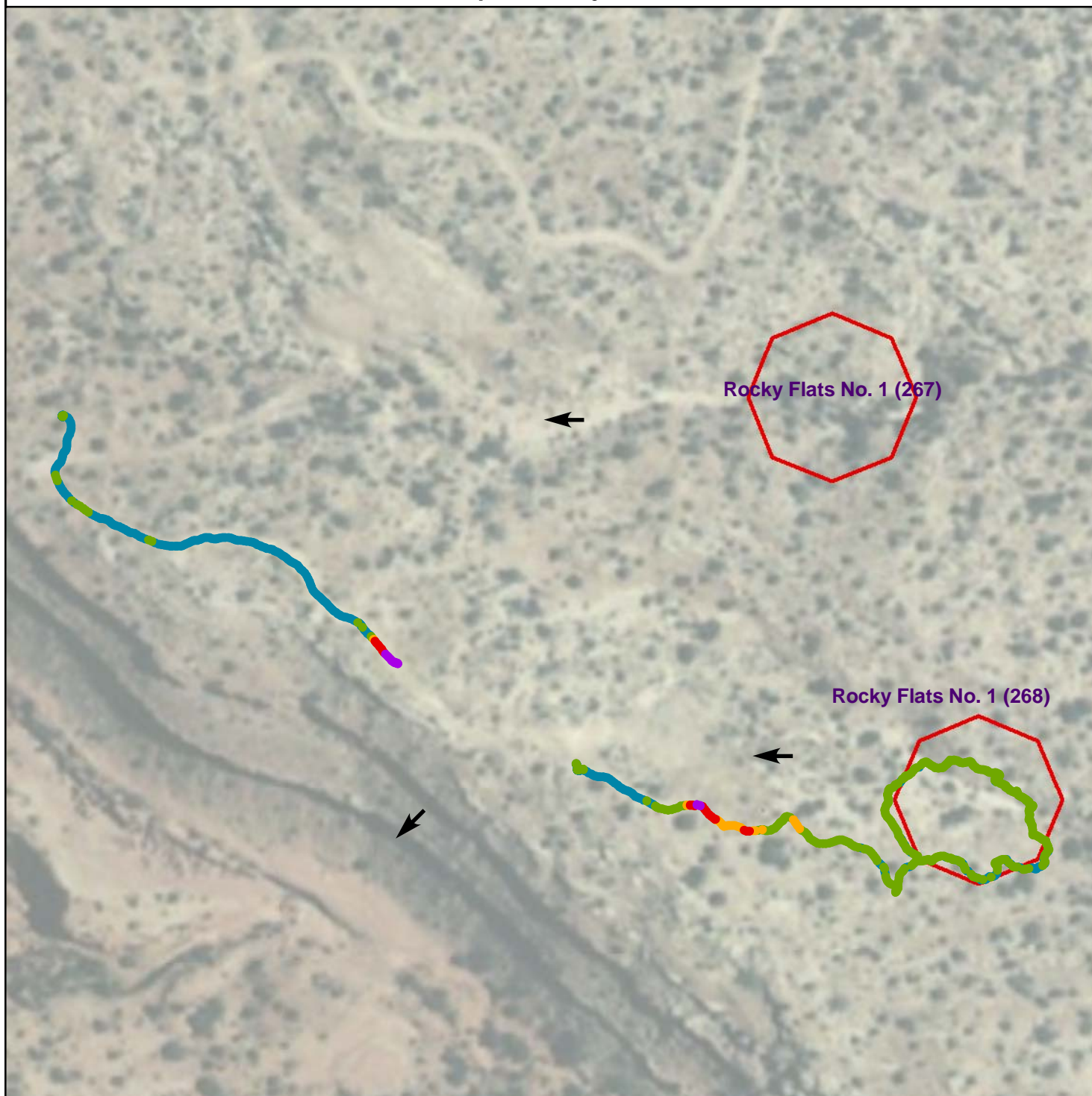


Figure 9 - Gamma Radiation Measurements
Rocky Flats No. 1 (268)
Beclabito Chapter, Navajo Nation, Arizona



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000

➔ General Direction Down-Slope

□ Mine Claim Boundaries

Gamma survey conducted 10/2009
 Measured as counts per minute (cpm)

Average background 8,277 cpm

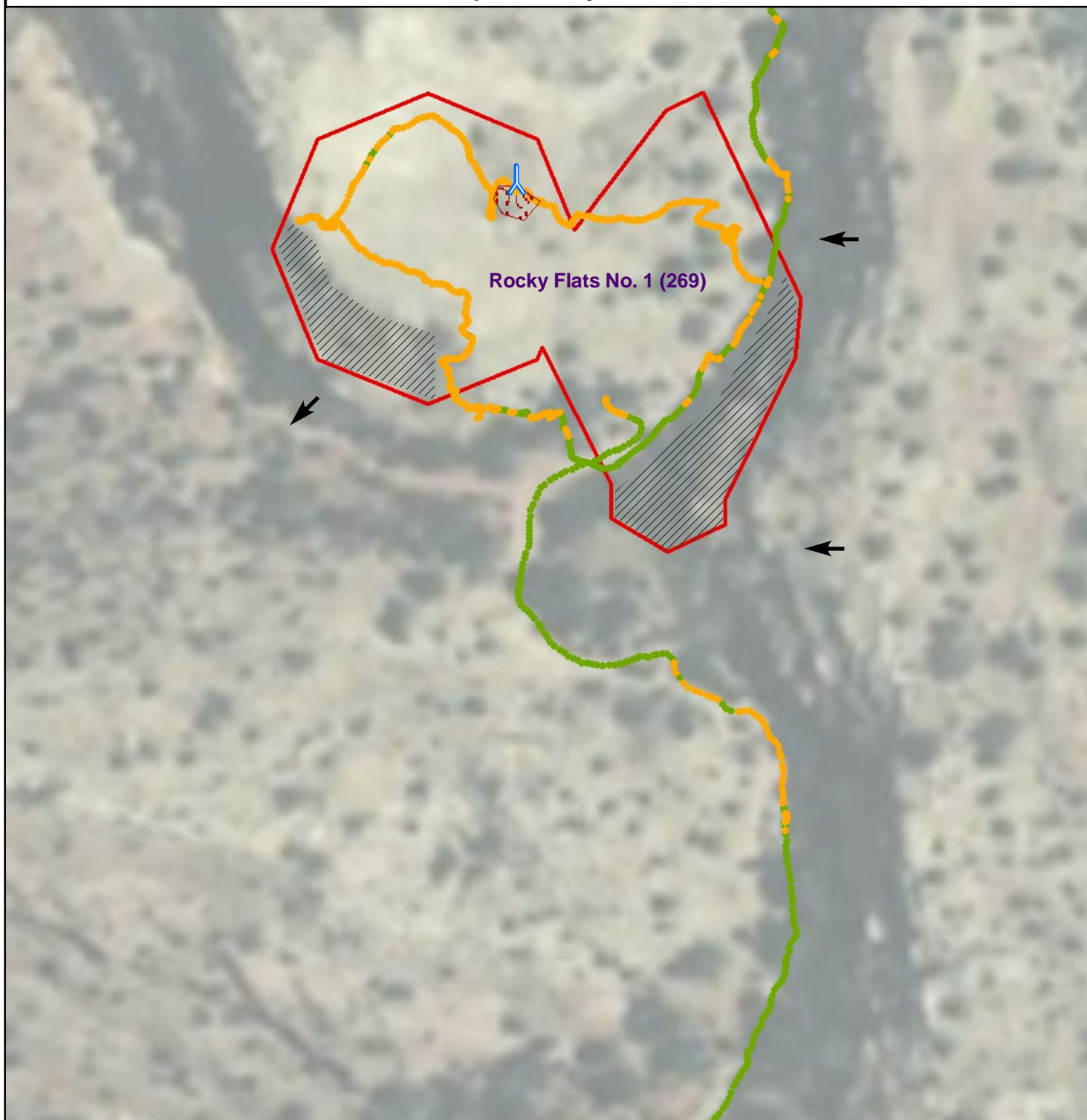


0 200 Feet



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**Figure 10 - Gamma Radiation Measurements, Above Two Times Background
Rocky Flats No. 1 (269)
Beclabito Chapter, Navajo Nation, Arizona**



Legend

Gamma Radiation Measurements

- < 2X Background
- > 2X Background

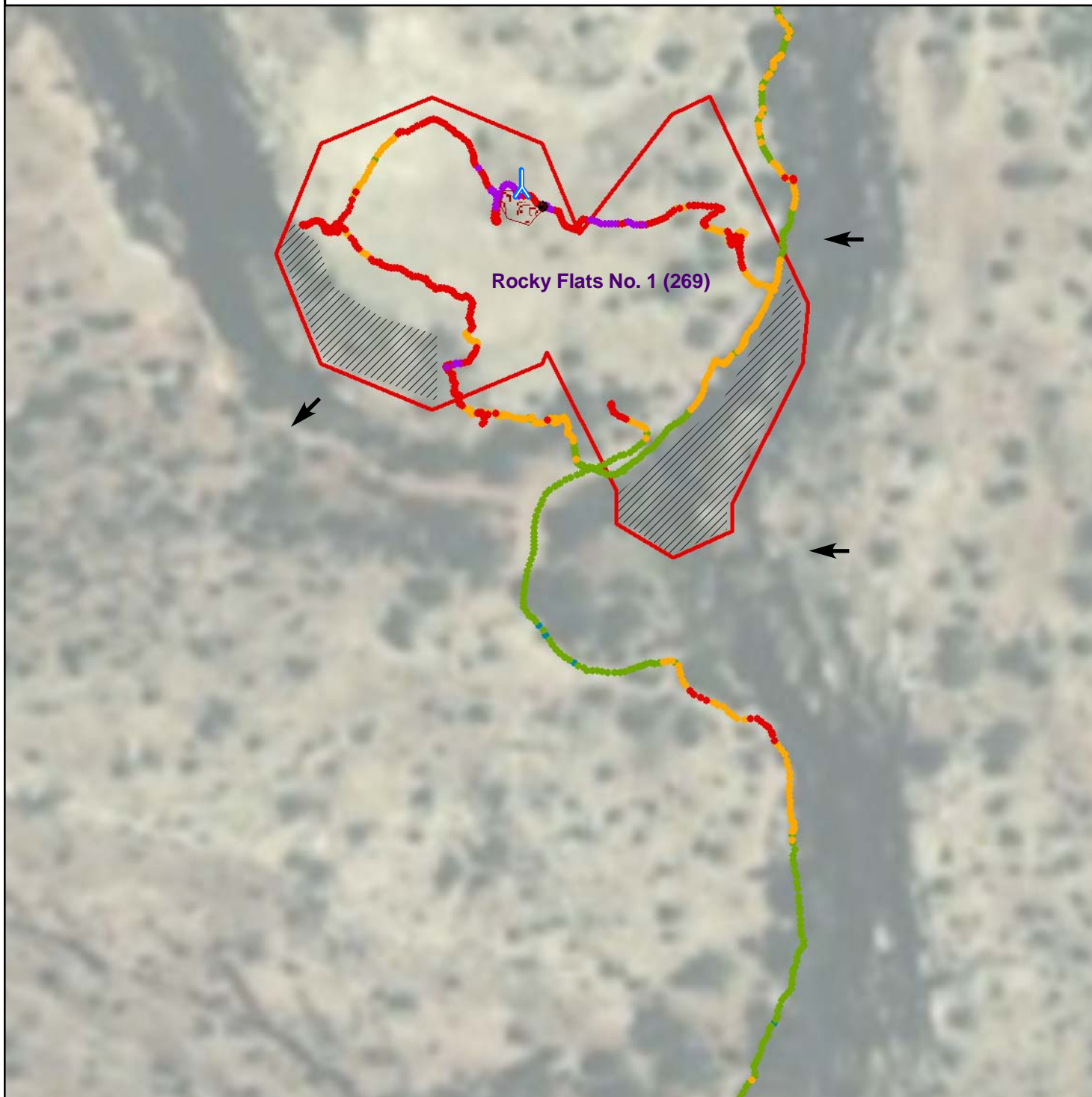
Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

Average background = 8,277 cpm

- Observed Adit
- Observed Waste Pile
- Inaccessible due to steep grades
- General Direction Down-Slope
- Mine Claim Boundaries



Figure 11 - Gamma Radiation Measurements
Rocky Flats No. 1 (269)
Beclabito Chapter, Navajo Nation, Arizona



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000



Observed Adit



Observed Waste Pile



Inaccessible due to steep grades



General Direction Down-Slope



Mine Claim Boundaries

Gamma survey conducted 10/2009
 Measured as counts per minute (cpm)

Average background 8,277 cpm



0 100 Feet



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